

Retraction

Retracted: Analysis of Financial Management Target Architecture Based on ISM Model

Mathematical Problems in Engineering

Received 8 August 2023; Accepted 8 August 2023; Published 9 August 2023

Copyright © 2023 Mathematical Problems in Engineering. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] Y. Bi, "Analysis of Financial Management Target Architecture Based on ISM Model," *Mathematical Problems in Engineering*, vol. 2022, Article ID 3416671, 8 pages, 2022.

Research Article

Analysis of Financial Management Target Architecture Based on ISM Model

Yulin Bi 

Catholic University, Daegu 42708, Republic of Korea

Correspondence should be addressed to Yulin Bi; 2020020541@stu.cdut.edu.cn

Received 15 July 2022; Accepted 5 August 2022; Published 29 August 2022

Academic Editor: Hengchang Jing

Copyright © 2022 Yulin Bi. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

In order to better construct the financial management standard distribution architecture, this paper proposes a financial management target architecture based on the ISM model. By discussing the stability, periodicity, and hierarchy of enterprise financial management objectives, this paper describes the system structure of enterprise financial management objectives by using the ISM model method of system engineering and establishes a five-level hierarchical structure model of financial management objective system. In this paper, the ISM algorithm is improved, two algorithms are proposed and their root mean square error is compared and analyzed. The experimental results show that the root mean square error of the EWISM algorithm and ETISM algorithm is significantly smaller than that of the traditional ism algorithm when the signal-to-noise ratio is 5–20db. *Conclusion.* By analyzing the architecture of financial management objectives based on the ISM model and improving the ISM algorithm, it can provide a better reference for enterprises to determine financial management objectives.

1. Introduction

Financial management is a part of enterprise management, and it is the management work related to the acquisition and effective use of funds; its goal is the desired result of the system. Different goals can be determined according to the problems to be solved and studied by different systems [1]. Financial management objectives are the desired results of financial management activities of enterprises and the basic standard to evaluate whether the financial management work of enterprises is reasonable. The construction of an enterprise financial management objective system is directly related to the survival and development of enterprises [2]. Establishing reasonable financial management objectives is of great significance both in theory and practice. From the perspective of major countries in the world, there are obvious differences in financial management objectives. In Japan, shareholders, creditors, employees, and the government all play an important role in enterprise financial decision-making. Financial decision-making must take into account the interests of all parties [3]. This makes the pursuit of maximizing enterprise value a reasonable goal of financial

management. The maximization of enterprise value means to maximize the total value of the enterprise on the basis of ensuring the long-term and stable development of the enterprise by adopting the optimal financial policies and taking full account of the time value of funds and the relationship between risk and reward.

In 1973, a conceptual interpretive structure model, namely, the ISM model, was developed to analyze the problems related to complex socio-economic systems [4]. The first task is to collect the relevant factors that affect the problem in as much detail as possible, number them and assign the influence degree to the value. Secondly, the numerical values are processed with the help of mathematical calculation tools. According to the calculation results, these influencing factors are divided into primary, secondary, tertiary, and other categories, and then the reachability matrix is established. On the basis of the reachability matrix, a multilevel structure model is constructed. This structure model can more intuitively see what factors have a greater impact on the cost from a quantitative point of view, so as to facilitate the project management to implement management more effectively.

Therefore, by discussing the stability, phased and hierarchical characteristics of financial management objectives, the ISM model method of system engineering is used to describe the system structure of enterprise financial management objectives, and a five-level hierarchical structure model of financial management objective system is established [5]. It aims to provide a reference for enterprises to determine financial management objectives.

2. Literature Review

Article 5 of China's "company law" stipulates that the goal of the company is to maintain and increase the value of the enterprise. From the day when the enterprise was born, it was destined to be an organization for the purpose of the operation. The financial management objective is the starting point of enterprise financial management activities, and financial management must meet the company's business objectives. From the perspective of different business objectives of the company, there are two major financial management models in the world, namely, the financial management model based on the developed market represented by the United States and the financial management model based on the developed banking industry represented by Japan [6]. Some people have made a special comparison between the two financial management modes, and the comparison results are shown in Table 1.

It can be seen from Table 1 that the roles of stakeholders in the United States and Japan in corporate financial management are not exactly the same. In the United States, shareholders play a leading role in financial decision-making, while employees, creditors, and the government play a very small role, which makes American financial managers attach great importance to the interests of shareholders and take maximizing shareholders' wealth as the goal of financial management. The shareholders' wealth is mainly reflected in the rise of stock price. Therefore, the goal of financial management is transformed into the highest stock price. The financial decisions of American enterprises are all based on the stock price. In Japan, shareholders, creditors, employees, and the government all play an important role in the financial decision-making of enterprises. Financial decision-making must take into account the interests of all parties. This makes the pursuit of maximizing enterprise value a reasonable goal of financial management. The maximization of enterprise value means to maximize the total value of the enterprise on the basis of ensuring the long-term and stable development of the enterprise by adopting the optimal financial policy, fully considering the time value of the capital and the relationship between risk and reward [7].

The goal of financial management is to require the financial management activities of enterprises to fully consider the needs of long-term development in the future, that is, the sustainable development of finance, on the premise of meeting the current stable production and operation of enterprises. The author believes that the general goal of modern enterprise financial management should be the sustainable development of enterprise finance, and the

comprehensive development of enterprise financial status, enterprise financial achievement, and enterprise capital accumulation [8]. These three aspects are progressive and guided by the general goal of sustainable development. According to the requirements of this general goal, enterprises should not only have a good financial situation, the basis for enterprise survival but also obtain satisfactory financial results, the source of enterprise survival and development but also maintain an appropriate level of accumulation. The guarantee for the sustainable development of enterprises is only by maintaining the unity and coordination of the three can enterprises obtain the realistic conditions for survival and development.

The first task of the ISM model is to collect the relevant factors affecting the problem in detail as much as possible, number and assign the influence degree to the value and then deal with the value with the help of mathematical calculation tools. According to the calculation results, these influencing factors are divided into primary, secondary, and tertiary categories, and then the reachability matrix is established. On the basis of the reachability matrix, a multilevel structure model is constructed. This structure model can more intuitively see the factors that have a greater impact on the cost from a quantitative point of view, so as to facilitate the project management to implement management more effectively [9].

Based on the above-given research, this paper analyzes the financial management objective system structure based on the ISM model, discusses the stability, phased and hierarchical characteristics of enterprise financial management objectives, describes the enterprise financial management objective system structure by using the ISM model method of system engineering, and establishes a five-level hierarchical structure model of the financial management objective system, in order to provide a reference for enterprises to determine the financial management objectives.

3. Research Methods

3.1. Introduction to Ism Method. ISM (interpretative structural modeling) is the abbreviation of an interpretative structural model. It was developed by Warfield in the United States in 1973 as a method to analyze problems related to complex socio-economic systems [10]. Its characteristic is that the complex system is decomposed into several sub-systems (elements). With the help of people's practical experience and knowledge and computer, the system is finally constructed into a multilevel hierarchical structure model.

A large number of application practices show that the ism method is not only applicable to the analysis of social and economic problems but also applicable to the study and understanding of various problems with complex relationships and has a wide range of applications.

Typical steps of the ISM method are as follows:

- (1) Organize the Team to Implement ISM. The number of team members is generally about 10. They have a

TABLE 1: Comparison of financial management modes between the United States and Japan.

	U.S.A	Japan
Owner	More individual shareholders	Most shareholders are legal persons, with relatively concentrated equity
Workers	Unstable relationship between employees and enterprises	Stable relationship between employees and enterprises
Creditor	Creditor and enterprise are contractual relations	Firm relationship between enterprises and banks
Government	Less government intervention	More government intervention

good understanding of the problems to be solved and can express their mature views.

- (2) Select the Elements that Make Up the System. The team members wrote down the relevant issues they thought of on paper and then discussed, studied, and proposed the scheme of system elements based on it. After repeated discussion, a more reasonable scheme of system elements was formed and based on this, a detailed list of elements was prepared for future use.
- (3) According to the list of elements, the conceptual model is made, and the adjacency matrix and reachability matrix are established.
- (4) After analyzing the reachability matrix, the structure model is established.
- (5) According to the structural model, the interpretive structural model is established.

3.2. Specific Implementation of ISM Method. An interpretive structure model of financial management objectives is established by the ISM method [11].

We selected 9 representative financial management objectives from the relevant literature from 1988 to 2002, as follows.

S1-profit maximization; S2-maximization of shareholders' wealth; S3-maximization of enterprise value; S4-maximization of stakeholders' interests; S5-maximization of cash flow; S6-capital cost minimization; S7-capital structure optimization; S8-maximization of earnings per share; S9-maximize the profit margin of equity capital. We have invited professionals who are familiar with financial management and ISM to conduct a logical analysis on the above-given system elements and reach an agreement. The results can be expressed in a square diagram, as shown in Figure 1.

∇: the upper elements have an influence on the lower elements; Δ: inferior elements have an influence on superior elements;

× : The upper and lower elements influence each other.

The elements are arranged in the box in order according to the level division and then find out the relationship between the elements at all levels in order to obtain the financial management objective system structure model shown in Figure 2 [12]. Fill in Figure 2 with the names of system elements to obtain the explanatory structure model of the enterprise financial management objective system, as shown in Figure 3.

∇	∇	Δ	Δ	∇			∇	S1
	Δ				∇	∇		S2
					∇			S3
Δ	Δ	Δ	Δ	Δ				S4
								S5
∇	∇	×						S6
∇	∇							S7
								S8
								S9

FIGURE 1: System element grid.

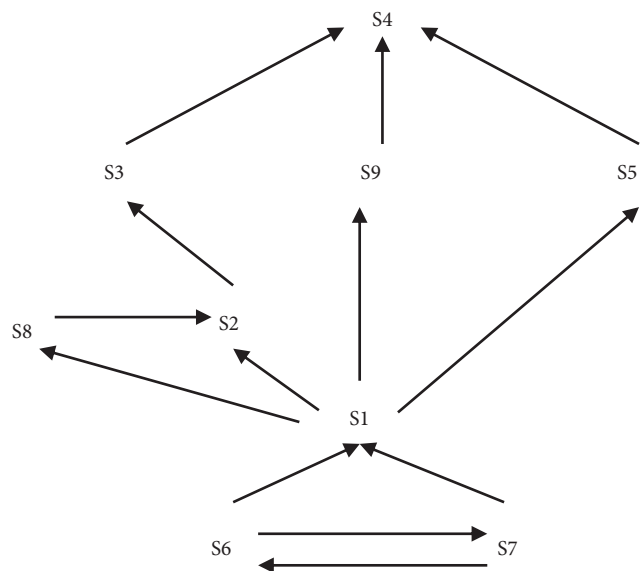


FIGURE 2: Financial management objective system structure model.

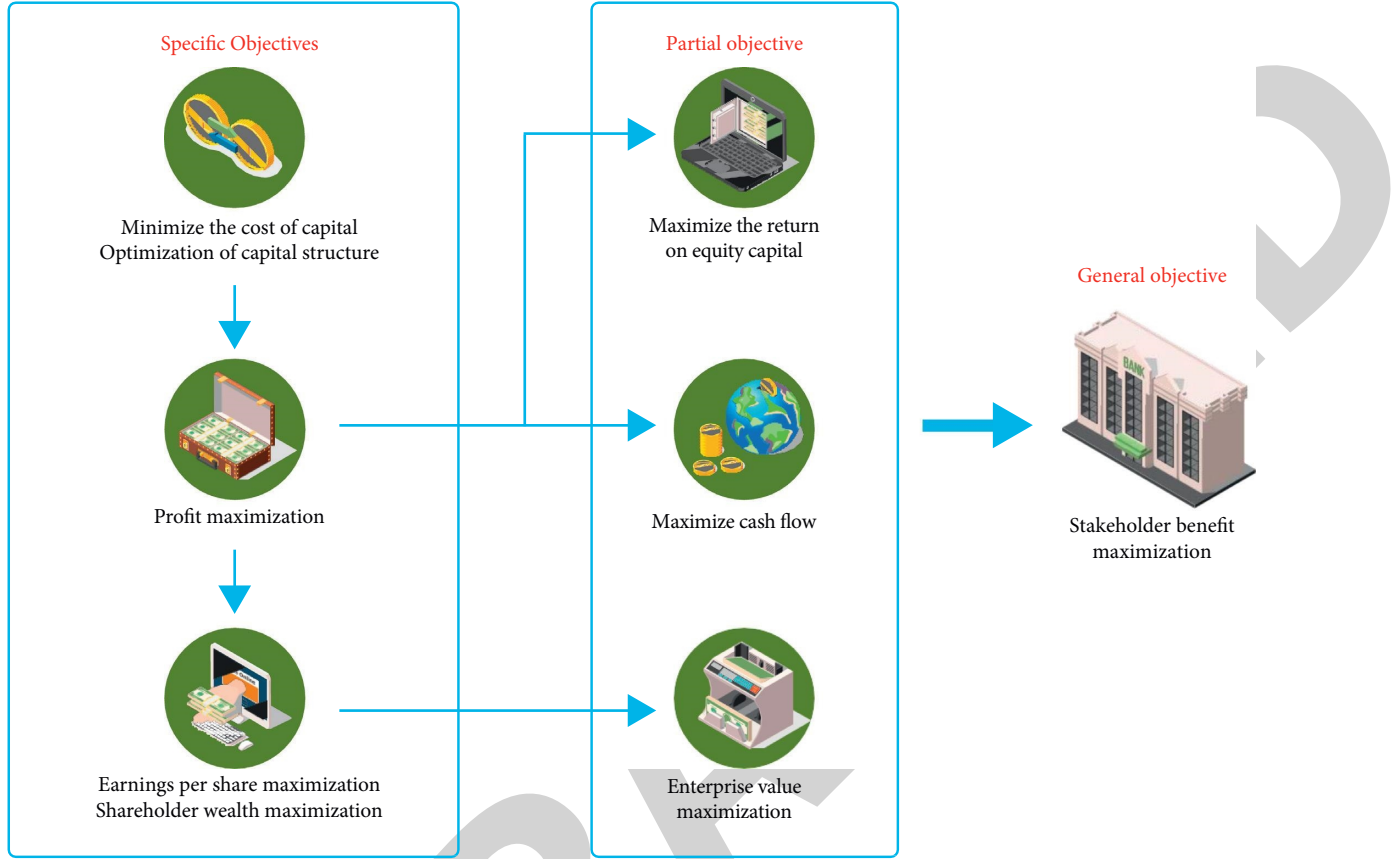


FIGURE 3: Explanatory structure model of enterprise financial management objective system.

3.3. ISM Model Algorithm Analysis

3.3.1. ISM Traditional Algorithm. The traditional ism algorithm decomposes the broadband signal into J narrow-band components in the frequency domain, directly decomposes the array output covariance matrix of each sub-band to obtain the orthogonal signal subspace and noise subspace, and then uses the music algorithm for spectrum estimation [13–15]. In order to estimate the covariance matrix on each narrow band, it is necessary to convert the time domain observation signal to the frequency-domain [16]. Firstly, the signals collected in the observation time are divided into k segments, then the time length of each segment is $T_d = T_0/K$, and then each segment is DFT to obtain K groups of uncorrelated narrow-band frequency-domain components. In broadband processing, K is called frequency-domain snapshots, so K snapshots can be obtained, which is recorded as $X_k(f_j), k = 1, 2, \dots, K, f = 1, 2, \dots, J$. The aim of the ISM algorithm is to estimate the azimuth of multiple targets from these K frequency-domain snapshots. For space ideal white noise, and the noise power is σ^2 , the corresponding covariance matrix at frequency f_j can be expressed as follows:

$$\begin{aligned} R_x(f_j) &= E[XX^H] = AE[SS^H]A^H + E[NN^H] \\ &= AR_sH^H + R_N = AR_sA^H + \sigma^2I, \end{aligned} \quad (1)$$

where: R_s and R_N are signal covariance matrix and noise covariance matrix, respectively. Perform feature decomposition for them, including

$$R_x(f_j) = U \Sigma U^H, \quad (2)$$

where U is the eigenvector matrix, and the diagonal matrix Σ composed of eigenvalues is as follows:

$$\Sigma = \begin{bmatrix} \lambda_1 & & & \\ & \lambda_2 & & \\ & & \ddots & \\ & & & \lambda_M \end{bmatrix}. \quad (3)$$

The eigenvalues in the above formula satisfy the following relationship:

$$\lambda_1 \geq \lambda_2 \geq \lambda_p > \lambda_{p+1} = \dots = \lambda_M = \sigma^2. \quad (4)$$

3.3.2. ISM Improved Algorithm. Energy weighted algorithm (EWISM).

The traditional ism algorithm is to process the equal weight average method of DOA estimates of J frequency points, that is,

$$P = \frac{1}{J} \sum_{j=1}^J P_j. \quad (5)$$

This method ignores the difference of signal energy of each sub-band and considers that the signal-to-noise ratio of each sub-band is consistent, resulting in poor DOA estimation performance [17]. EWISM algorithm is based on the maximum ratio combining the technology of diversity combining technology to weight the spectral value of the spatial estimated value of each sub-band. The sub-band with large energy is given a larger weight, and the sub-band with small energy is given a smaller weight.

$$P = \sum_{j=1}^J \lambda_j P_j = \sum_{j=1}^J \frac{W_j}{W_1 + W_2 + \dots + W_J} P_j. \quad (6)$$

Formula (6) shows that the greater the proportion of the energy in a sub-band to the total energy, the greater the proportion of the estimated spatial spectrum in the final estimated value. That is to say, the greater the signal energy, the higher the reliability of the spatial spectrum estimation of the sub-band; on the contrary, the smaller the signal energy, the lower the reliability of the spatial spectrum estimation of the sub-band.

Energy threshold algorithm (ETISM).

The traditional ism algorithm needs to process each sub-band, and each processing involves feature decomposition and spectral peak search, which requires a lot of computation. ETISM algorithm first calculates the energy value of each sub-band and then sets an appropriate energy threshold [18]. If the energy of a certain sub-band is greater than the threshold, the narrow-band spatial spectrum is processed, otherwise, it is not considered. For example, take the mean of all sub-band energies as the threshold, that is,

$$T_W = \frac{1}{J} \sum_{j=1}^J W_j, \quad (7)$$

where W_j is the energy of the j sub-band, and T_W is the average energy of each sub-band. Taking T_W as the threshold value, if the energy of a certain sub-band is greater than T_W , the narrow-band spatial spectrum processing will be performed. If the energy of a certain sub-band is less than T_W , the sub-band will not be considered. For different thresholds, the computation and root mean square error of the algorithm are also different.

Figure 4 shows the root mean square error diagram corresponding to the ETISM algorithm under three different threshold conditions. T_1 represents the intermediate case, T_2 represents the low threshold case, and T_3 represents the high threshold case. It can be seen from Figure 4 that the root mean square error of the high threshold case is less than that of the middle case, and the root mean square error of the middle case is less than that of the low threshold Case [19]. The algorithm sets an energy threshold, discards the sub-bands whose energy is less than the threshold, and then narrow-band processes the subbands whose energy is greater than the threshold, which not only reduces the root mean

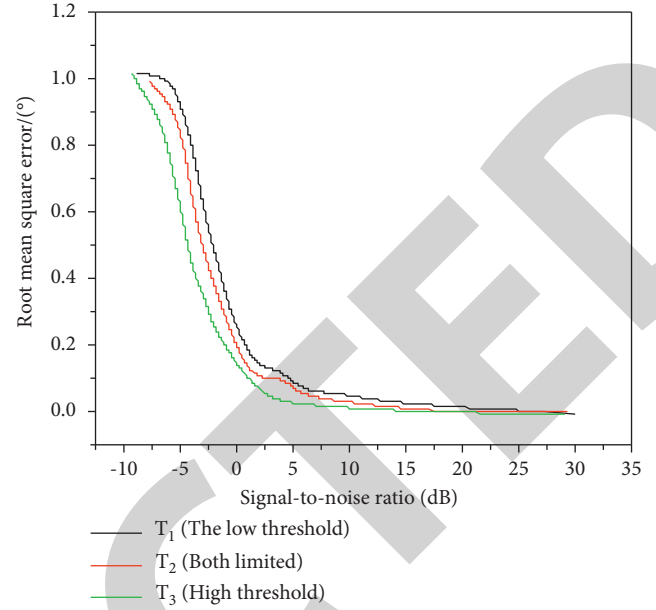


FIGURE 4: Comparison of root mean square error under three different thresholds.

square error, improves the resolution probability but also reduces the amount of computation [20].

4. Results and Analysis

4.1. Analysis of Enterprise Financial Management Objective Architecture Based on ISM Model

- (1) The highest level in Figure 3 is “maximizing the interests of stakeholders,” which shows that maximizing the interests of stakeholders is the ultimate goal of enterprise financial management. The “stakeholders” here refers to the main stakeholders represented by shareholders and creditors and should also include customers, enterprise employees, community organizations, governments, and other secondary stakeholders. Enterprise financial management should not only take into account the interests of shareholders and creditors but also improve the welfare of employees, improve or be conducive to the surrounding environment of the enterprise, be enthusiastic about social welfare undertakings, and create a good corporate image [21].
- (2) The second level of Figure 3 has three subobjectives, namely, “maximizing enterprise value,” “maximizing profit margin of equity capital,” and “maximizing cash flow,” which constitute the segment objective level of the entire financial management objective system. These three subgoals explain the maximization of the interests of the main stakeholders from different aspects. “Enterprise value maximization” represents the absolute value interests of shareholders and creditors at the same time; “Maximizing the profit margin of equity capital” mainly emphasizes the relative interests of shareholders; “Cash flow

maximization” emphasizes the balance between shareholders’ and creditors’ interests in terms of risk and reward [22].

- (3) The third layer in Figure 3 has two subgoals, namely, “maximizing earnings per share” and “maximizing shareholder wealth.” Among them, the maximization of shareholder wealth is the core element. The maximization of earnings per share emphasizes the relative profitability of equity capital. The realization of this subgoal will help to achieve the subgoal of “maximizing shareholder wealth.” The subgoal of “maximizing shareholders’ wealth” mainly emphasizes the maximization of shareholders’ interests.
- (4) The fourth layer in Figure 3 has a subgoal “profit maximization.” This subobjective is also the core element of the whole financial management objective system. The subgoal of “profit maximization” is the basis for realizing the hierarchical subgoals of “maximization of shareholder wealth,” “maximization of earnings per share,” “maximization of enterprise value,” “maximization of profit margin of equity capital,” “maximization of cash flow,” and the ultimate goal of “maximization of stakeholders’ interests.”
- (5) The last layer of Figure 3 has two subgoals, namely, “capital cost minimization” and “capital structure optimization”. There is a loop relationship between the two subtargets. Both explain the efficiency of financing behavior from different angles, and both are conducive to the realization of the subgoal of “profit maximization” [23].

The third level, the fourth level, and the fifth level subobjectives constitute the specific objective level of the entire financial management objective system.

From the above-given analysis, it can be seen that the enterprise financial management objective system mainly includes five levels. Among them, “maximization of shareholders’ wealth” and “maximization of profits” are the two core elements of the entire objective system, and they are also the two objectives that have been most agreed by the financial management theory circle for a long time; “Maximizing the interests of stakeholders” is the overall goal of the target system. After layer by layer decomposition, it can be gradually decomposed into divisional goals and specific goals. This objective system can provide a reference for enterprises to determine their own financial management objectives. Enterprises can timely revise their financial management objectives according to changes in the macro- and microenvironment, their own development stages, and their management objectives, so as to better guide the enterprise’s investment management, financing management, income distribution management, and other financial management work [24].

4.2. Simulation Effect and Analysis of EWISM Algorithm. Simulation conditions: a uniform linear array with 8 array elements. The array element spacing is the half wavelength of

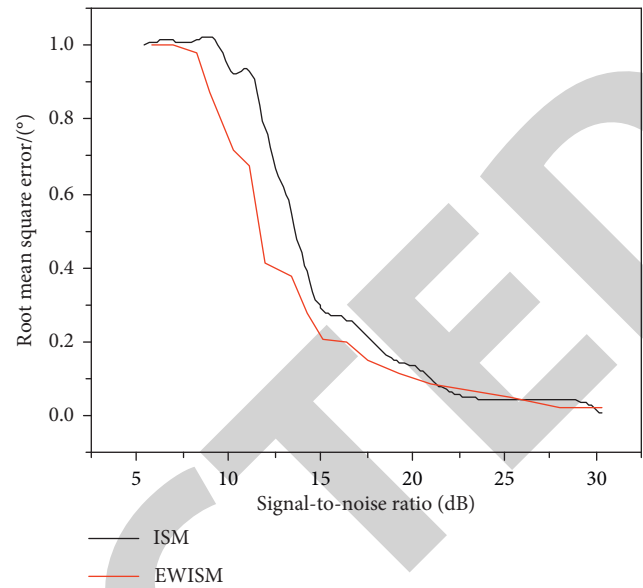


FIGURE 5: Comparison of root mean square error between EWISM algorithm and original algorithm.

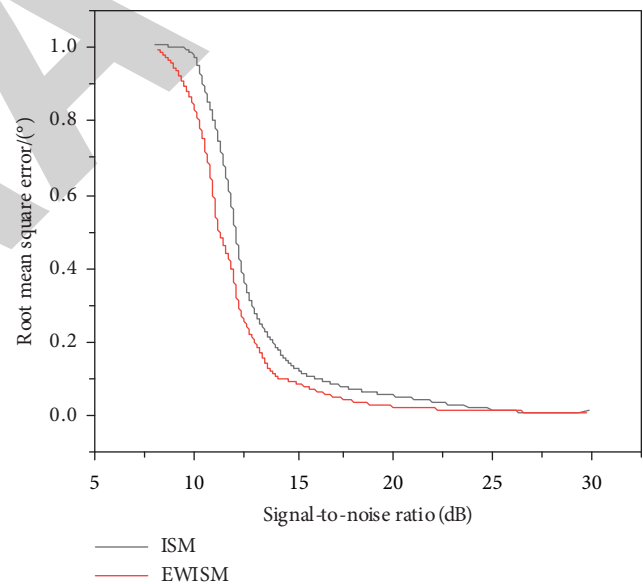


FIGURE 6: Comparison of root mean square error between ETISM algorithm and original algorithm.

the highest frequency. The highest frequency is 200 kHz and the lowest frequency is 20 kHz. The incident angles of two independent broadband signals are 10° and 14.3° . The signal bandwidth is divided into $j=64$ frequency points. The central frequency point is taken as the reference frequency point, and the number of snapshots at each frequency point is 50. Figure 5 is a Monte Carlo simulation conducted for 200 times at each point, comparing the root mean square error of the two algorithms. As can be seen from Figure 5, when the signal-to-noise ratio is 5–20 dB, the root mean square error of the EWISM algorithm is significantly smaller than that of the traditional ism algorithm.

4.3. Simulation Effect and Analysis of Energy Threshold Algorithm. Simulation conditions: a uniform linear array with 8 array elements. The array element spacing is the half wavelength of the highest frequency, the highest frequency is 110hz, and the lowest frequency is 90hz. The incident angles of two independent broadband signals are 5° and $\text{minus } 5^\circ$. The signal bandwidth is divided into $j = 64$ frequency points, the number of snapshots is 2048, and the central frequency point is taken as the reference frequency point. Figure 6 shows the Monte Carlo simulation conducted for 200 times at each point, comparing the root mean square error of the two algorithms [25].

5. Conclusion

This paper analyzes the architecture of financial management objectives based on the ISM model, discusses the stability, periodicity, and hierarchy of enterprise financial management objectives, describes the architecture of enterprise financial management objectives by using the ISM model method of system engineering, and establishes a five-level hierarchical structure model of financial management objective system. In this paper, the ISM algorithm is improved, two algorithms are proposed and their root mean square error is compared and analyzed. The experimental results show that the objective system can provide a reference for enterprises to determine their own financial management objectives. Enterprises can timely revise their financial management objectives according to the changes of macro- and microenvironment, their own development stages, and their management objectives, so as to better guide the financial management of enterprises, such as investment management, financing management, and income distribution management; through the comparison and analysis of algorithms, it is found that the root mean square error of the EWISM algorithm and ETISM algorithm is significantly smaller than that of traditional ism algorithm when the signal-to-noise ratio is 5–20 dB. It can be seen that by analyzing the architecture of financial management objectives based on the ISM model and improving the ISM algorithm, it can better provide a reference for enterprises to determine financial management objectives.

Data Availability

The data used to support the findings of this study are available from the author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

References

- [1] D. Graziano and D. Magni, "Unpacking the sustainability of sovereign wealth funds. the effect of financial performances on sustainability disclosure," *International Journal of Managerial and Financial Accounting*, vol. 14, no. 2, p. 157, 2022.
- [2] O. O. Nesterenko, "The place of reporting in the management of financial results of the enterprise," *Problems of Theory and Methodology of Accounting Control and Analysis*, vol. 1, pp. 26–32, 2021.
- [3] N. Sivasankaran, A. Kanagaraj, D. Israel, and R. Prasad, "The hungry energised allergic disease-ridden matrix for financial decision dilemmas of entrepreneurs," *International Journal of Electronic Finance*, vol. 11, no. 2, p. 101, 2022.
- [4] R. Barzegarkhoo, S. A. Khan, Y. P. Siwakoti, R. P. Aguilera, S. S. Lee, and M. N. H Khan, "Implementation and analysis of a novel switched-boost common-ground five-level inverter modulated with model predictive control strategy," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 10, pp. 731–744, 2022.
- [5] I. R. Chuy, T. Y. Andreikiv, and I. Y. Mutyan, "The financial sustainability of consumer cooperation enterprises of Ukraine in the system of management of its financial resources," *Business Inform*, vol. 3, no. 518, pp. 162–170, 2021.
- [6] A. T. Emmanuel and J. E. Ekpenyong, "Impact of crude oil volatility on stock market performance in Nigeria, over two decades," *International Journal of Econometrics and Financial Management*, vol. 9, no. 1, pp. 23–33, 2021.
- [7] B. Yang and L. Gan, "Contingent capital Tobin's q and corporate capital structure," *The North American Journal of Economics and Finance*, vol. 55, no. 3, Article ID 101305, 2021.
- [8] L. Y. Zhang, X. Yin, J. Yang, A. Li, and G. K. Xu, "Multilevel structural defects-induced elastic wave tunability and localization of a tensegrity metamaterial," *Composites Science and Technology*, vol. 207, no. 12, Article ID 108740, 2021.
- [9] W. Xin and Y. Wang, "Research on influencing factors of reservoir construction risk based on interpretative structural modeling," *World Journal of Engineering and Technology*, vol. 09, no. 04, pp. 727–736, 2021.
- [10] I. Mirsayapov and G. Apkhadze, "Modified trilinear stress-strain diagram of concrete designed for calculation of beams with fiberglass rebar," *IOP Conference Series: Materials Science and Engineering*, vol. 890, no. 1, Article ID 012079, 2020.
- [11] M. Hucumenoglu and P. Pal, "Effect of sparse array geometry on estimation of co-array signal subspace," *Applied Computational Electromagnetics Society*, vol. 35, no. 11, pp. 1435–1436, 2021.
- [12] J. Chen, H. Mao, Z. Wang, and X. Zhang, "Low-rank representation with adaptive dictionary learning for subspace clustering," *Knowledge-Based Systems*, vol. 223, no. 13, Article ID 107053, 2021.
- [13] Q. Zheng, L. Luo, H. Song, G. Sheng, and X. Jiang, "A rssi-aoa based uhf partial discharge localization method using music algorithm," *IEEE Transactions on Instrumentation and Measurement*, vol. 70, pp. 1–9, 2021.
- [14] J. O. Ajadi, A. Wong, T. Mahmood, and K. Hung, "A new multivariate cusum chart for monitoring of covariance matrix with individual observations under estimated parameter," *Quality and Reliability Engineering International*, vol. 38, no. 2, pp. 834–847, 2022.
- [15] X. Lin, X. Zhang, L. He, and W. Zheng, "Multiple emitters localization by uav with nested linear array: system scheme and 2d-doa estimation algorithm," *China Communications*, vol. 17, no. 3, pp. 117–130, 2020.
- [16] R. B. A. Kardono, N. S. P. Jaya, and N. Rochaeti, "Hukuman kebiri terhadap kejahatan seksual anak," *Kanun Jurnal Ilmu Hukum*, vol. 22, no. 3, pp. 567–582, 2020.
- [17] F. Watanabe, "Wireless sensor network localization using aoa measurements with two-step error variance-weighted least squares," *IEEE Access*, vol. 9, pp. 10820–10828, 2021.
- [18] Y. Sun, P. Feng, H. Zhou et al., "Optimization of self-consistent approach for quantum cascade laser using shooting

- method and particle swarm optimization,” *IEICE Electronics Express*, vol. 17, no. 1, Article ID 20190651, 2020.
- [19] R. Bolotov and A. Suglobov, “Using of neural networks for assessing of the financial stability of companies,” *Russian Journal of Management*, vol. 8, no. 1, pp. 106–110, 2020.
- [20] L. M. Nyabwengi and O. A. K’Akumu, “An evaluation of property tax base in nairobi city,” *Journal of financial management of property and construction*, vol. 24, no. 2, pp. 184–199, 2019.
- [21] A. Sharma, G. Rathee, R. Kumar et al., “A secure energy- and sla-efficient (sese) e-healthcare framework for quickest data transmission using cyber-physical system,” *Sensors*, vol. 19, no. 9, p. 2119, 2019.
- [22] M. Bradha, N. Balakrishnan, S. Suvi et al., “Experimental, computational analysis of butein and lanceoletin for natural dye-sensitized solar cells and stabilizing efficiency by iot. environment,” *Development and Sustainability*, vol. 24, no. 7, 2021.
- [23] J. Hu, Y. M. Kang, Y. H. Chen, X. Liu, X. Li, and Q. Liu, “Analysis of aerosol optical depth variation characteristics for 10 years in urumqi based on,” vol. 39, no. 8, pp. 3563–3570, 2018.
- [24] R. Huang, *Framework for a smart adult education environment*, *World Transactions on Engineering and Technology Education*, vol. 13, no. 4, pp. 637–641, 2015.
- [25] Q. Zhang, “Relay vibration protection simulation experimental platform based on signal reconstruction of MATLAB software,” *Nonlinear Engineering*, vol. 10, no. 1, pp. 461–468, 2021.